IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A lithographic apparatus comprising:

an illumination system that provides a beam of radiation;

a support structure that supports a patterning structure, the patterning structure configured to impart the beam of radiation with a pattern in its cross-section;

a substrate support that supports a substrate;

a projection system that projects the patterned beam onto a target portion of the substrate; and

a debris-mitigation system that mitigates debris particles which are formed during use of at least a part of the lithographic apparatus, wherein the debris-mitigation system is arranged to apply a magnetic field so that at least charged debris particles are mitigated, wherein the debris-mitigation system is further arranged to switch the magnetic field alternatingly on and off, and wherein the debris mitigation system is further arranged to induce, in use, within a group of the debris particles, a current such that at least charged debris particles of that group deflect under influence of a force which has a direction perpendicular to a component of the magnetic field and perpendicular to a component of the electric current induced.

2. (Original) A lithographic apparatus according to claim 1, wherein the debris-mitigation system comprises a plurality of debris-trapping surfaces.

3. (Original) A lithographic apparatus according to claim 2, wherein the debris-mitigation system is further arranged to apply the magnetic field such that, in use, the charged particles are moved substantially towards at least one of the plurality of debris-trapping surfaces.

4. (Original) A lithographic apparatus according to claim 1, wherein the debris-mitigation system is further arranged to apply the magnetic field such that, in use, at least some of the charged debris particles spiralize.

5. (Original) A lithographic apparatus according to claim 1, wherein the debris-mitigation system comprises at least one solenoid for applying the magnetic field.

6. (Cancelled).

7. (Cancelled).

8. (Cancelled).

9. (Original) A lithographic apparatus according to claim 1, wherein the debris-mitigation system comprises at least two solenoids which are substantially coaxially aligned, wherein a first one of the at least two solenoids has a diameter which differs from the diameter of a second one of the at least two solenoids.

10. (Cancelled).

11. (Currently Amended) A debris-mitigation system for mitigating debris particles within a lithographic apparatus, wherein the debris-mitigation system is arranged to apply a magnetic field so that at least charged debris particles are mitigated, and wherein the debris-mitigation system is further arranged to apply a gradient to the magnetic field to create a volume in which the charged debris particles are substantially contained.

12. (Original) A debris-mitigation system according to claim 11, wherein the debris-mitigation system further comprises a plurality of debris-trapping surfaces.

13. (Original) A debris-mitigation system according to claim 12, wherein the debris-mitigation system is further arranged to apply the magnetic field such that, in use, the charged particles are moved substantially towards at least one of the plurality of debris-trapping surfaces.

14. (Original) A debris-mitigation system according to claim 11, wherein the debris-mitigation system comprises at least one solenoid for applying the magnetic field.

15. (Cancelled).

16. (Cancelled).

17. (Previously Presented) A debris-mitigation system according to claim 11, wherein the debris-mitigation system is further arranged to apply the magnetic field dynamically with a predetermined frequency to create the gradient.

18. (Original) A debris-mitigation system according to claim 11, wherein the debris-mitigation system comprises at least two solenoids which are substantially coaxially aligned, wherein a first one of the at least two solenoids has a diameter which differs from the diameter of a second one of the at least two solenoids.

19. (Original) A debris-mitigation system according to claim 11, wherein the debris mitigation system is further arranged to induce, in use, within a group of the debris particles an electric current such that at least charged debris particles of that group deflect under influence of a force which has a direction perpendicular to a component of the magnetic field and perpendicular to a component of the electric current induced.

20. (Previously Presented) A source for producing EUV radiation, comprising a debris-mitigation system that mitigates debris particles which are formed during production of EUV radiation, wherein the debris-mitigation system is arranged to apply a magnetic field so that at least charged debris particles are mitigated, and wherein the debris mitigation system is further arranged to induce, in use, within a group of the debris particles an electric current such that at least charged debris particles of that group deflect under influence of a force which has a direction perpendicular to a component of the magnetic field and perpendicular to a component of the electric current induced.

21. (Original) A source according to claim 20, wherein the debris-mitigation system further comprises a plurality of debris-trapping surfaces.

22. (Previously Presented) A source according to claim 21, wherein the debris-mitigation system is further arranged to apply the magnetic field such that, in use, the charged particles are moved substantially towards at least one of the plurality of debris-trapping surfaces.

23. (Original) A source according to claim 20, wherein the debris-mitigation system comprises at least one solenoid for applying the magnetic field.

24. (Original) A source according to claim 20, wherein the debris-mitigation system is further arranged to switch the magnetic field alternatingly on and off.

25. (Original) A source according to claim 20, wherein the debris-mitigation system is further arranged to apply a gradient to the magnetic field.

26. (Original) A source according to claim 20, wherein the debris-mitigation system is further arranged to apply the magnetic field dynamically with a predetermined frequency.

27. (Original) A source for producing EUV radiation according to claim 20, wherein the debris-mitigation system comprises at least two solenoids which are substantially coaxially aligned, wherein a first one of the at least two solenoids has a diameter which differs from the diameter of a second one of the at least two solenoids.

28. (Cancelled).

29. (Currently Amended) A method for mitigating debris as produced during use of at least a part of a lithographic apparatus, the method comprising:

applying a magnetic field so that at least charged debris particles are mitigated; and

applying a gradient to the magnetic field to create a volume in which the charged debris particles are substantially contained.

30. (Original) A method according to claim 29, wherein the debris-mitigation system further comprises a plurality of debris-trapping surfaces.

31. (Original) A method according to claim 30, wherein the magnetic field is applied such that, in use, the charged particles are moved substantially towards at least one of the number of debris-trapping surfaces.

32. (Original) A method according to claim 29, wherein the debris-mitigation system comprises at least one solenoid for applying the magnetic field.

33. (Original) A method according to claim 29, wherein the magnetic field is alternatingly switched on and off.

34. (Cancelled).

35. (Previously Presented) A method according to claim 29, wherein the magnetic field is applied dynamically with a predetermined frequency to create the gradient.

36. (Original) A method according to claim 29, wherein the debris-mitigation system comprises at least two solenoids which are substantially coaxially aligned, wherein a first one of the at least two solenoids has a diameter which differs from the diameter of a second one of the at least two solenoids.

37. (Original) A method according to claim 29, wherein within a group of the desired particles an external electric current is induced such that at least charged debris particles deflect under influence of a force which has a direction perpendicular to a component of the magnetic field and perpendicular to a component of the electric current externally induced.

38. (Cancelled).

39. (Cancelled).

40. (Cancelled).

41. (Currently Amended) A lithographic method comprising:

generating a beam of EUV radiation, wherein production of said EUV radiation causes generation of charged particle debris as a byproduct;

patterning said beam of EUV radiation;

projecting said patterned beam of EUV radiation onto a substrate;

generating a magnetic field to interact with said charged debris particles; and

applying a gradient to the magnetic field to create a volume in which the charged debris particles are substantially contained.

42. (Currently Amended) A lithographic apparatus comprising:

an illumination system that provides a beam of radiation;

a support structure that supports a patterning structure, the patterning structure configured to impart the beam of radiation with a pattern in its cross-section;

a substrate support that supports a substrate;

a projection system that projects the patterned beam onto a target portion of the substrate; and

a debris-mitigation system that mitigates debris particles which are formed during use of at least a part of the lithographic apparatus, wherein the debris-mitigation system is arranged to apply a magnetic field so that at least charged debris particles are mitigated, and wherein the debris-mitigation system is further arranged to apply a gradient to the magnetic field to create a volume in which the charged debris particles are substantially contained.

43. (Previously Presented) A lithographic apparatus according to claim 42, wherein the debris-mitigation system comprises a plurality of debris-trapping surfaces.

44. (Previously Presented) A lithographic apparatus according to claim 43, wherein the debris-mitigation system is further arranged to apply the magnetic field such that, in use, the charged particles are moved substantially towards at least one of the plurality of debris-trapping surfaces.

45. (Previously Presented) A lithographic apparatus according to claim 42, wherein the debris-mitigation system is further arranged to apply the magnetic field such that, in use, at least some of the charged debris particles spiralize.

46. (Previously Presented) A lithographic apparatus according to claim 42, wherein the debris-mitigation system comprises at least one solenoid for applying the magnetic field.

47. (Previously Presented) A lithographic apparatus according to claim 42, wherein the debris-mitigation system comprises at least two solenoids which are substantially coaxially aligned, wherein a first one of the at least two solenoids has a diameter which differs from the diameter of a second one of the at least two solenoids.

48. (Currently Amended) A lithographic apparatus comprising:

an illumination system that provides a beam of radiation;

a support structure that supports a patterning structure, the patterning structure configured to impart the beam of radiation with a pattern in its cross-section;

a substrate support that supports a substrate;

a projection system that projects the patterned beam onto a target portion of the substrate; and

a debris-mitigation system that mitigates debris particles which are formed during use of at least a part of the lithographic apparatus, wherein the debris-mitigation system is arranged to apply a magnetic field so that at least charged debris particles are mitigated, and wherein the debris-mitigation system is further arranged to apply the magnetic field dynamically with a predetermined frequency to create a volume in which the charged debris particles are substantially contained.

49. (Previously Presented) A lithographic apparatus according to claim 48, wherein the debris-mitigation system comprises a plurality of debris-trapping surfaces.

50. (Previously Presented) A lithographic apparatus according to claim 49, wherein the debris-mitigation system is further arranged to apply the magnetic field such that, in use, the charged particles are moved substantially towards at least one of the plurality of debris-trapping surfaces.

51. (Previously Presented) A lithographic apparatus according to claim 48, wherein the debris-mitigation system is further arranged to apply the magnetic field such that, in use, at least some of the charged debris particles spiralize.

52. (Previously Presented) A lithographic apparatus according to claim 48, wherein the debris-mitigation system comprises at least one solenoid for applying the magnetic field.

53. (Previously Presented) A lithographic apparatus according to claim 48, wherein the debris-mitigation system comprises at least two solenoids which are substantially coaxially aligned, wherein a first one of the at least two solenoids has a diameter which differs from the diameter of a second one of the at least two solenoids.

54. (Previously Presented) A lithographic apparatus comprising:

an illumination system that provides a beam of radiation;

a support structure that supports a patterning structure, the patterning structure configured to impart the beam of radiation with a pattern in its cross-section;

a substrate support that supports a substrate;

a projection system that projects the patterned beam onto a target portion of the substrate; and

a debris-mitigation system that mitigates debris particles which are formed during use of at least a part of the lithographic apparatus, wherein the debris-mitigation system is arranged to apply a magnetic field so that at least charged debris particles are mitigated, wherein the debris mitigation system is further arranged to induce, in use, within a group of the debris particles an electric current such that at least charged debris particles of that group deflect under influence of a force which has a direction perpendicular to a component of the magnetic field and perpendicular to a component of the electric current induced.

55. (Previously Presented) A lithographic apparatus according to claim 54, wherein the debris-mitigation system comprises a plurality of debris-trapping surfaces.

56. (Previously Presented) A lithographic apparatus according to claim 55, wherein the debris-mitigation system is further arranged to apply the magnetic field such that, in use, the charged particles are moved substantially towards at least one of the plurality of debris-trapping surfaces.

57. (Previously Presented) A lithographic apparatus according to claim 54, wherein the debris-mitigation system is further arranged to apply the magnetic field such that, in use, at least some of the charged debris particles spiralize.

58. (Previously Presented) A lithographic apparatus according to claim 54, wherein the debris-mitigation system comprises at least one solenoid for applying the magnetic field.

59. (Previously Presented) A lithographic apparatus according to claim 54, wherein the debris-mitigation system comprises at least two solenoids which are substantially coaxially aligned, wherein a first one of the at least two solenoids has a diameter which differs from the diameter of a second one of the at least two solenoids.

60. (New) A debris-mitigation system according to claim 11, wherein the debris-mitigation system is further arranged to allow at least some of the charged debris particles to escape from the volume.

61. (New) A method according to claim 29, wherein the magnetic field is applied such that at least some of the charged debris particles escape from the volume.

62. (New) A lithographic method according to claim 41, wherein the magnetic field is applied such that at least some of the charged debris particles escape from the volume.

63. (New) A lithographic apparatus according to claim 42, wherein the debris-mitigation system is further arranged to allow at least some of the charged debris particles to escape from the volume.

64. (New) A lithographic apparatus according to claim 48, wherein the debris-mitigation system is further arranged to allow at least some of the charged debris particles to escape from the volume.